This list is not in final form. Like, stuff may yet be added to it.

Test #3 is

Friday
4/21/06.

The test will cover the material of Assignments #1 - #30, with emphasis on #21 - #30. That is, sections 11.5-11.10, and 8.1.

Be sure you know

(a) How and when to invoke Alternating-Series Test.
(b) How to approximate the sum of an alternating series to within a given $\varepsilon$.
(c) The Ratio Test for series convergence.
(d) The Root Test for series convergence.
(e) Radius of Convergence of a Power Series.
(f) Interval of Convergence of a Power Series its endpoints and interior.

(g) $\sum_{k=0}^{\infty} x^k = ?$

(h) $\sum_{k=0}^{\infty} (-1)^k x^k = ?$

(i) $\frac{1}{1+x} = \sum_{n=?}^{\infty}$

(j) $\frac{1}{1-x} = \sum_{n=?}^{\infty}$

(k) $\frac{1}{1+x^2} = \sum_{n=?}^{\infty}$

(l) $\arctan(x) = \sum_{n=?}^{\infty}$
\(\ln(1 + x) = \sum_{n=0}^{\infty} x^n \) ?

(n) The formula for the coefficients in the power series known as Taylor or Maclaurin series.

(o) \(\sum_{n=0}^{\infty} \frac{x^n}{n!} = ?\)

(p) \(\sum_{n=0}^{\infty} \frac{(-1)^n x^n}{n!} = ?\)

(q) \(\sum_{n=0}^{\infty} \frac{(-1)^n x^{2n+1}}{(2n+1)!} = ?\)

(r) \(\sum_{n=0}^{\infty} \frac{(-1)^n x^{2n+1}}{2n + 1} = ?\)

(s) \(\sum_{n=0}^{\infty} \frac{x^{2n+1}}{(2n+1)!} = ?\)

(t) \(\sum_{n=0}^{\infty} \frac{x^{2n}}{(2n)!} = ?\)

(u) \(\sum_{n=0}^{\infty} \frac{(-1)^n x^{2n}}{(2n)!} = ?\)

(v) Manipulating power series: substitutions (as in 11.10: 43), term-by-term integration (as in 11.10: 43), and differentiation.

(w) Be able to set up an arc-length integral. And maybe even evaluate it.

5 Did anybody get 11.7: 37-38?

6 Old-Test Problems

(A) Test #1 (2/8/02): 1, 2, 3, 6, 7, 8

(B) Test #2 (3/1/02): 6

(C) Test #3 (4/12/02): 2, 3, 4, 5

(D) Test #3 (5/3/02): 1, 2, 3, 4
MATH 175 – Review Sheet for Test #3 – 4/21/06

(E) Final (5/13/02): 1, 6, 7